MINNESOTA NURSES ASSOCIATION RESOLUTION
ON PUTTING PUBLIC HEALTH FIRST IN MINNESOTA WASTE MANAGEMENT POLICIES
November 2010

Whereas: Incinerator emissions to air and ash contain over 35 metals[1]. Several are known or suspected carcinogens.

Whereas: Toxic metals accumulate in the body with increasing age[2]. Breathing in air containing toxic metals leads to bioaccumulation in the human body.

Whereas: Mercury is one of the most dangerous heavy metals. It is neurotoxic and has been implicated in Alzheimer's disease[3-5], learning disabilities, hyperactivity [6-7] and reduced intelligence in children .

Whereas: Mercury is a vapor at incineration temperatures and cannot be completely removed from the exhaust gases by the filters. Incinerators have been a major source of mercury release into the environment.

Whereas: The Massachusetts Medical Society has called for a Zero Mercury Emissions strategy, including a moratorium on Waste Incinerators, to address the threats to public health[8].

Whereas: Inhalation of heavy metals such as nickel, beryllium, chromium, cadmium and arsenic increases the risk of lung cancer[9]**.**

Whereas: Nitrogen dioxide**,** another pollutant produced by incinerators**, has** been associated with rises in **hospital** admissions with COPD[10], asthma in children and in heart disease in those over **age** 65[11].

Whereas: Hundreds of chemical compounds **called Organic Toxicants** are released **into the air** from incinerators. They include a host of chemicals produced from the burning of plastic and similar substances and include polycyclic aromatic hydrocarbons **(**PAHs), brominated flame retardants, polychlorinated biphenols (PCBs), **D**ioxins, polychlorinated dibenzofurans (**F**urans). These substances accumulate in fatty tissue and remain active in living organisms and the environment for many years.

Whereas: They have been linked with early puberty[12], endometriosis[13], breast cancer[13,14], reduced sperm counts[15] and other disorders of male reproductive tissues[16], testicular cancer[17] and thyroid disruption[18].

Whereas: The Organochlorines **in this group**, which include **D**ioxins, **F**urans and PCBs, **mostly the result of burning PVC products, are known toxins in very minute amounts.**

Whereas: The American Pubic Health Association (APHA) concluded "virtually all organochlorines that have been studied exhibit at least one of a range of serious toxic effects, such as endocrine disruption, developmental impairment, birth defects, reproductive dysfunction and infertility, immunosuppression and cancer, often at extremely low doses**.**"[19]

Whereas: Dioxins are the organochlorine compounds most associated with incinerators and inventories have consistently shown that incinerators are the major source of emissions of dioxins into the air.[20-22]

Whereas: The National Institute of Environmental Health have looked for, but been unable to find, any safe threshold for the toxicity of Dioxin. At the lowest detectable concentrations it can induce target genes and activate a cascade of intracellular molecular effects and can promote pre-malignant liver tumours and disrupt hormones[23]. Even doses as low as 2.5 parts per quadrillion can stop cultured cells from showing changes characteristic of immune responses[24].

Whereas: The average newborn Dioxin intake for the first year, at current levels, has been calculated to pose a cancer risk to the average infant of 187 per million (187 times the acceptable level)[25].

Whereas: The Minnesota Pollution Control Agency's and the state of Minnesota's proposed hierarchy of waste management practices prefers garbage incineration over any kind of managed landfilling.[26]

Whereas: The Minnesota Pollution Control Agency stated at the public meeting on October 14, 2010 that public health was not a consideration in developing the proposed solid waste management policy hierarchy.

Whereas: Almost half of municipal waste consists of paper, cardboard, fabrics, glass and metals – all of which could be recycled. Metals are becoming more valuable and are already being mined in dumps in parts of the world. About 32% consists of garden and food waste which could be composted. Emphasizing Source Reduction, by way of recycling and residential and municipal composting, could reduce the amount of solid waste to be potentially incinerated or landfilled by more than half.[27]

Whereas: Burning garbage doesn't make it disappear. Incineration (sometimes referred to as "waste-to-energy") turns a solid waste problem into an air pollution problem, and creates a new waste disposal problem in the form of toxic ash and, often, contaminated water from cleaning the scrubbers that must be landfilled and will be considered highly toxic for a very long time.

Whereas: incineration, with its large appetite for highly burnable recyclable fuels, becomes instead a competitor with recycling and has [27] become an obstacle to sound waste policy. This is in direct contradiction to the hierarchy of best waste management practices based on public and environmental health and, in effect, removes the motivation to re-use, compost and recycle.

Whereas: Many other countries have been able to achieve high rates of municipal waste diversion (recycling, re-use and composting) which demonstrates that diversion rates of at least 50-80% or more are realistic targets.[28]

Whereas: MNA recognizes Registered Nurses as patient advocates and advocates for the health care needs of society at-large.

THEREFORE, LET IT BE RESOLVED: The Minnesota Nurses Association urges the State of Minnesota and the Minnesota Pollution Control Agency to put the health of public in the forefront when developing policies/best practices for waste management.

RESOLVED: MNA will send a letter of concern to the Minnesota Pollution Control Agency asking for the proposed hierarchy of waste management practices to be altered to reflect the significant potential detrimental public health impact brought by the continued use of garbage incineration for waste management. MNA will also send letters of support to elected representatives or officials supporting waste management policies that protect the public health.

Notes:

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7.) Grandjean P, Weihe P, White RF et al. Cognitive deficit in 7-year old children with prenatal exposure to methyl mercury. Neurotoxicol Teratol 1997; 19(6): 417-28.

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9.) Peters JM, Thomas D, Falk H et al. Contribution of metals to respiratory cancer. Environ Health Perspect 1986;70: 71-83.

10.) Andersen HR, Spix C, Medina S, et al. Air pollution and daily admissions for chronic obstructive pulmonary disease in 6 European cities: results from the APHEA project. Eur Resp J 1997; 10(5): 1064-71.

11.) WHO Air Quality Guidelines, 1999, Chapter 3.

12.) Den Hond E, Roels HA, Hoppenbrouwers K et al. Sexual maturation in relationship to polychlorinated aromatic hydrocarbons: Shape and Skakkebaek's hypothesis revisited. Environ Health Perspect 2002; 110(8): 771-6.

13.) Wolff MS, Weston A. Breast cancer risk and environmental exposures. Environ Health Perspect 1997; 105(Suppl 4): 891-6.

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17.) Hardell L, van Bavel B, Lindstrom G et al. Increased concentrations of polychlorinated biphenyls, hexachlorobenzene and chlordanes in mothers of men with testicular cancer. Environ Health Perspect 2003; 111 (7): 930-4.

18.) Porterfield SP. Vulnerability of the developing brain to thyroid abnormalities and environmental insults to the thyroid system. Environ Health Perspect 1994; 102 Supp 2: 125-30.

19.) Thornton J, Pandora's Poison, 2000, MIT Press, Cambridge, Massachusetts & London

20.) BrzuzyLP, Hites RA. Global mass balance of polychlorinated dibenzo-p-dioxins and dibenzofurans. Environmental Science and Technology, 1996, 30:1797-1804

21.) US Environmental Protection Agency. The Inventory of sources of dioxin in the United States (Review Draft). Washington DC: US EPA Office of Research and Development (EPA/600/p-98-002a), 1998

22.) Thomas V, Shapiro C. An estimation of dioxin emissions in the United States. Toxicology and Environmental Chemistrty, 1995; 50:1-37

23.) Tritscher AM, Clark GS, Lucier GW. Dose-response effects of dioxins:Species comparison and implications for risk assessment. In: Schecter A, Dioxins and Health. New York:plenum, 1994:227-248130)

24.) Neubert R, Jacob-Muller U, Helge H et al. Polyhalogenated dibenzo-p-dioxins and dibenzofurans and the immune system: In vitro effects of 2,3,7,8 tetrachlorodibenzo-p-dioxin (TCDD) on lymphocytes of venous blood from a man and a non-human primate. Archives of Toxicology 1991;65:213-9

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26.) http://cf.pca.state.mn.us/news/data/bdc.cfm?noticeID=285566&blobID=28427&doc

TypeID=4, pg 6

27.) http://www.ecomed.org.uk/content/IncineratorReport_v3.pdf, pg 35

28.) http://www.ecomed.org.uk/content/IncineratorReport_v3.pdf, pg 35

Local Diversion Rates (percent)
Zabbaleen-served areas of Cairo, Egypt 85%
Opotiki District, New Zealand 85%
Bellusco (Milan), Italy 73%
Netherlands 72%
Northumberland County, Ontario, Canada 69%
Sidney, Ontario 69%
East Prince, Prince Edward Island, Canada 66%
Boothbay, Maine, U.SA 66%
Halifax, Canada 65%
Chatham, New Jersey, U.SA 65%
Falls Church, Virginia, U.SA 65%

Galway, Ireland 63%
Belleville, Ontario 63%
Canberra, Australia 61%
Bellevue, Washington, U.SA 60%
Guelph, Ontario, Canada 58%
Gisbome District, New Zealand 57%
Cfifton, New Jersey, U.SA 56%
Loveland, Colorado, U.SA 56%
Denmark 54%
Bergen County, New Jersey, U.SA 54%
Worcester, Massachusetts, U.SA 54%
Leverett, Massachusetts, U.S.A. 53%
Ann Arbor, Michigan, U.S.A. 52%
Crockett, Texas, U.S.A. 52%
Dover, New Hampshire, U.SA 52%
Kaikoura District, New Zealand 52%
Switzerland 50%
Nova Scotia, Canada 50%
Portland, Oregon, U.SA 50%
Madison, Wisconsin, U.SA 50%
Fitchburg, Wisconsin, U.SA 50%
Visalia, California, U.SA 50%